IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: G. Muralidharan	§	Group Art Unit:	2443
Application No.: 10/723,864	§	Confirmation No.:	9698
Filed: November 26, 2003	§	Examiner:	Fearer, Mark D.
For: METHOD AND APPARATUS FOR DYNAMICALLY ADAPTING IMAGE UPDATES BASED ON NETWORK PERFORMANCE	§	Atty. Docket:	GEMS:0249/YOD/DOO 138256 SV

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September 27, 2010	/Matthew C. Dooley/
Date	Matthew C. Dooley

APPEAL BRIEF PURSUANT TO 37 C.F.R. §§ 41.31 AND 41.37

This Appeal Brief is being filed in furtherance to the Notice of Appeal and Pre-Appeal Brief Request for Review electronically filed with the Patent Office on June 29, 2010, and also in furtherance to the Notice of Panel Decision mailed on August 26, 2010.

The Commissioner is authorized to charge the requisite fee of $540.00, and any additional fees which may be required, to Deposit Account No. 50-2402; Order No. 138256 SV (GEMS:0249/YOD/DOO).

1. **REAL PARTY IN INTEREST**

The real party in interest is GE Medical Systems, Inc., Assignee of the above-referenced application by virtue of the Assignment recorded at reel 014755, frame 0552, and dated November 25, 2003. Accordingly, GE Medical Systems, Inc. will be directly affected by the board's decision in the pending appeal.

2. **RELATED APPEALS AND INTERFERENCES**

The appellant is unaware of any other appeals or interferences related to this Appeal. The undersigned is the appellant's legal representative in this Appeal.

3. **STATUS OF CLAIMS**

Claims 1-18, 20-23, 31-35, and 40-49 are currently pending. Claims 1-18, 20-23, 31-35, and 40-49 are currently under final rejection and, thus, are the subject of this Appeal. Claims 19, 24-30, and 26-29 have been canceled.

4. **STATUS OF AMENDMENTS**

As there were no amendments made to the claims after the Final Office Action issued, there are no outstanding amendments to be considered by the board.

5. **SUMMARY OF CLAIMED SUBJECT MATTER**

The Application contains six independent claims, namely, claims 1, 15, 31, 40, 41, and 42, all of which are the subject of this Appeal. The subject matter of these claims is summarized below.

Claims 1, 15, 31, 40, 41, and 42 relate generally to the field of remote configuration and observation of an imaging system over a network. *See* Application, page 1, lines 6-7. More specifically, claims 1, 15, 31, 40, 41, and 42 relate to methods and systems for dynamically adapting image updates for a remote console observation based on network performance. *See id.* at lines 7-9. Imaging data may be converted into screen updates for transmission across a network and based on the measured network performance, the system

may adjust the screen updates that are transmitted to a remote operator workstation. *See* Application, page 3, lines 21-27.

With regard to the aspect of the invention set forth in independent claim 1, discussions of the recited features of claim 1 can be found, at least, in the below cited locations of the specification and drawings. By way of example, present embodiments include a remote viewing system (*see* Application, page 5, lines 8-11) comprising a serving station (*see* Application, FIG. 1, ref. 14) coupled to a medical diagnostic imaging system (*see* Application, FIG. 1, ref. 10) for controlling the imaging system (*see* Application, page 6, lines 24-26) and configured to receive image data (*see* Application, page 7, lines 9-11), the serving station (*see* Application, FIG. 1, ref. 14) comprising a scanner module (*see* Application, FIG. 2, ref. 66) configured to modify a scanning rate of the image data (*see* Application, page 12, line 30 – page 13, line 2), and an encoder module (*see* Application, FIG. 2, ref. 66) configured to modify an encoding format of the image data (*see* Application, page 13, lines 16-27), a served station (*see* Application, FIG. 1, ref. 16) from which a remote operator may interact (*see* Application, page 8, lines 10-13), with the serving station (*see* Application, FIG. 1, ref. 14), the served station (*see* Application, FIG. 1, ref. 16) being configured to receive modified image data (*see* Application, page 15, lines 12-14) from the serving station (*see* Application, FIG. 1, ref. 14) via a network (*see* Application, FIG. 1, ref. 20), and a plurality of network sensors (*see* Application, FIG. 2, ref. 54 and 56) in communication with the serving station (*see* Application, FIG. 1, ref. 14) and configured to provide network performance data (*see* Application, page 12, lines 4-6) to the serving station (*see* Application, FIG. 1, ref. 14), wherein the serving station (*see* Application, FIG. 1, ref. 14) dynamically modifies at least one of the scanning rate and the encoding format based on the network performance data (*see* Application, page 13, lines 24-27 and page 14, lines 13-16).

With regard to the aspect of the invention set forth in independent claim 15, discussions of the recited features of claim 15 can be found, at least, in the below cited locations of the specification and drawings. By way of example, present embodiments

include a method for adapting screen updates based on network congestion (*see* Application, page 3, lines 24-26) the method comprising linking a serving station (*see* Application, FIG. 1, ref. 14) to a served station (*see* Application, FIG. 1, ref. 16) via a network (*see* Application, FIG. 1, ref. 20), the serving station (*see* Application, FIG. 1, ref. 14) being coupled to a medical diagnostic imaging system (*see* Application, FIG. 1, ref. 10) for controlling the imaging system (*see* Application, page 6, lines 24-26) and being configured to receive image data (*see* Application, page 7, lines 9-11), the served station (*see* Application, FIG. 1, ref. 16) enabling a remote operator to interact (*see* Application, page 8, lines 10-13) with the serving station (*see* Application, FIG. 1, ref. 14), the served station (*see* Application, FIG. 1, ref. 16) being configured to receive modified image data (*see* Application, page 15, lines 12-14) from the serving station (*see* Application, FIG. 1, ref. 14) via a network (*see* Application, FIG. 1, ref. 20), wherein the serving station (*see* Application, FIG. 1, ref. 14) utilizes a remote framebuffer protocol (*see* Application, page 11, lines 17-20) to transmit the modified image data (*see* Application, page 15, lines 12-14) to the served station (*see* Application, FIG. 1, ref. 16), measuring network performance (*see* Application, page 11, lines 24-28) between a serving station (*see* Application, FIG. 1, ref. 14) and a served station (*see* Application, FIG. 1, ref. 16), wherein the serving station (*see* Application, FIG. 1, ref. 14) provides screen data (*see* Application, page 12, lines 6-14) derived from an imaging system (*see* Application, FIG. 1, ref. 10) to the served station (*see* Application, FIG. 1, ref. 16), and adjusting the screen data (*see* Application, page 12, lines 6-14) transmitted to the served station (*see* Application, FIG. 1, ref. 16) automatically based on the measurement of the network performance (*see* Application, page 14, lines 13-25), wherein adjusting the screen data comprises modifying a frame buffer scanning algorithm (*see* Application, page 9, lines 26-29) based on the network performance (*see* Application, page 13, lines 2-4).

With regard to the aspect of the invention set forth in independent claim 31, discussions of the recited features of claim 31 can be found, at least, in the below cited locations of the specification and drawings. By way of example, present embodiments include a method for adapting screen updates (*see* Application, page 12, lines 6-14) based on network performance (*see* Application, page 14, lines 13-25), the method comprising linking

a serving station (*see* Application, FIG. 1, ref. 14) to a served station (*see* Application, FIG. 1, ref. 16) via a network (*see* Application, FIG. 1, ref. 20), the serving station (*see* Application, FIG. 1, ref. 14) being coupled to a medical diagnostic imaging system (*see* Application, FIG. 1, ref. 10) for controlling the imaging system (*see* Application, page 6, lines 24-26) and being configured to receive image data (*see* Application, page 7, lines 9-11), the served station (*see* Application, FIG. 1, ref. 16) enabling a remote operator to interact (*see* Application, page 8, lines 10-13) with the serving station (*see* Application, FIG. 1, ref. 14), the served station (*see* Application, FIG. 1, ref. 16) being configured to receive modified image data (*see* Application, page 15, lines 12-14) from the serving station (*see* Application, FIG. 1, ref. 14) via a network (*see* Application, FIG. 1, ref. 20), detecting network performance (*see* Application, page 11, lines 24-28) between a serving station (*see* Application, FIG. 1, ref. 14) and a served station (*see* Application, FIG. 1, ref. 16), comparing the network performance to a specified range (*see* Application, page 13, line 27-32), and modifying a plurality of screen updates dynamically (*see* Application, page 14, lines 13-25) based upon the comparison of the network performance (*see* Application, page 13, line 27-32).

With regard to the aspect of the invention set forth in independent claim 40, discussions of the recited features of claim 40 can be found, at least, in the below cited locations of the specification and drawings. By way of example, present embodiments include a system for adapting screen updates based on network performance (*see* Application, page 12, lines 6-14), the system comprising a serving station (*see* Application, FIG. 1, ref. 14) coupled to a medical diagnostic imaging system (*see* Application, FIG. 1, ref. 10) for controlling the imaging system (*see* Application, page 6, lines 24-26) and configured to receive image data (*see* Application, page 7, lines 9-11), a served station (*see* Application, FIG. 1, ref. 16) from which a remote operator may interact (*see* Application, page 8, lines 10-13) with the serving station (*see* Application, FIG. 1, ref. 14), the served station (*see* Application, FIG. 1, ref. 16) being configured to receive modified image data (*see* Application, page 15, lines 12-14) from the serving station (*see* Application, FIG. 1, ref. 14) via a network (*see* Application, FIG. 1, ref. 20), means for detecting network performance

(*see* Application, FIG. 2, ref. 54) between the serving station (*see* Application, FIG. 1, ref. 14) and the served station (*see* Application, FIG. 1, ref. 16), means for comparing (*see* Application, FIG. 2, ref. 54) the network performance to a specified range (*see* Application, page 11, lines 27-32 and page 13, line 27-32), and means for (*see* Application, FIG. 1, ref. 14) dynamically modifying a plurality of screen updates based upon the comparison of the network performance to the specified range (*see* Application, page 12, lines 4-19).

With regard to the aspect of the invention set forth in independent claim 41, discussions of the recited features of claim 41 can be found, at least, in the below cited locations of the specification and drawings. By way of example, present embodiments include a system for adapting screen updates based on network congestion (*see* Application, page 12, lines 6-14), the system comprising a serving station (*see* Application, FIG. 1, ref. 14) coupled to a medical diagnostic imaging system (*see* Application, FIG. 1, ref. 10) for controlling the imaging system (*see* Application, page 6, lines 24-26) and configured to receive image data (*see* Application, page 7, lines 9-11), wherein the serving station (*see* Application, FIG. 1, ref. 14) receives local input data (*see* Application, FIG. 2, ref. 42) from a local operator via an input device (*see* Application, page 10, lines 17-21) that is coupled to the serving station (*see* Application, FIG. 1, ref. 14), a served station (*see* Application, FIG. 1, ref. 16) from which a remote operator may interact (*see* Application, page 5, lines 8-11) with the serving station (*see* Application, FIG. 1, ref. 14), the served station (*see* Application, FIG. 1, ref. 16) being configured to receive modified image data (*see* Application, page 15, lines 12-14) from the serving station (*see* Application, FIG. 1, ref. 14) via a network (*see* Application, FIG. 1, ref. 20), means for measuring network performance (*see* Application, FIG. 2, ref. 54) between the serving station (*see* Application, FIG. 1, ref. 14) and the served station (*see* Application, FIG. 1, ref. 16), wherein the serving station (*see* Application, FIG. 1, ref. 14) provides screen data (*see* Application, page 12, lines 6-14) derived from an imaging system (*see* Application, FIG. 1, ref. 10) to the served station (*see* Application, FIG. 1, ref. 16), and means for (*see* Application, FIG. 2, ref. 54) automatically adjusting the screen data transmitted (*see* Application, FIG. 2, ref. 38) to the served station (*see* Application, FIG. 1, ref. 16) based on the measurement of the network performance (*see* Application, page 14,

lines 13-25), wherein adjusting the screen data comprises modifying a frame buffer scanning algorithm (*see* Application, page 9, lines 26-29) based on the network performance (*see* Application, page 13, lines 2-4).

With regard to the aspect of the invention set forth in independent claim 42, discussions of the recited features of claim 42 can be found, at least, in the below cited locations of the specification and drawings. By way of example, present embodiments include a remote viewing system (*see* Application, FIG. 1, ref. 18) for a medical imaging system (*see* Application, FIG. 1, ref. 10), comprising an imaging system (*see* Application, FIG. 1, ref. 10) configured to detect a plurality of signals that are convertible into an image (*see* Application, page 5, lines 23-27), the system configured to produce image data (*see id.*), a serving station (*see* Application, FIG. 1, ref. 14) configured to receive the image data (*see* Application, page 7, lines 9-11) and control the imaging system (*see* Application, page 6, lines 24-26), the serving station (*see* Application, FIG. 1, ref. 14) comprising a scanner module (*see* Application, FIG. 2, ref. 66) configured to modify a scanning rate of the image data (*see* Application, page 12, line 30 – page 13, line 2), and an encoder module (*see* Application, FIG. 2, ref. 66) configured to modify an encoding format of the image data (*see* Application, page 13, lines 16-27), a served station (*see* Application, FIG. 1, ref. 16) configured to receive modified image data (*see* Application, page 15, lines 12-14) from the serving station (*see* Application, FIG. 1, ref. 14) and to interact (*see* Application, page 15, lines 12-14) with the serving station (*see* Application, FIG. 1, ref. 14) via a network (*see* Application, FIG. 1, ref. 20), and a plurality of network sensors (*see* Application, FIG. 2, ref. 54 and 56) in communication with the serving station (*see* Application, FIG. 1, ref. 14) and configured to provide network performance data (*see* Application, page 12, lines 4-6) to the serving station (*see* Application, FIG. 1, ref. 14), wherein the serving station (*see* Application, FIG. 1, ref. 14) dynamically modifies at least one of the scanning rate and the encoding format based on the network performance data (*see* Application, page 13, lines 24-27 and page 14, lines 13-16).

6. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

First Ground of Rejection for Review on Appeal:

The examiner rejected claims 1-3, 5-10, 12-13, 15-17, 20-23, 31-35, 40, 42, and 44-49 under 35 U.S.C. §102(b) as being anticipated over Collins, U.S. Publication No. 2002/0029285 (hereinafter "Collins").

Second Ground of Rejection for Review on Appeal:

The examiner rejected claims 4, 14, and 41 under 35 U.S.C. §103(a) as being unpatentable over Collins in view of Tanenbaum, U.S. Patent 5,119,319 (hereinafter "Tanenbaum").

Third Ground of Rejection for Review on Appeal:

The examiner rejected claims 11, 18, and 43 under 35 U.S.C. §103(a) as being unpatentable over Collins in view of Lang et al., U.S. Publication No. 2004/0138754 (hereinafter "Lang").

7. ARGUMENT

As discussed in detail below, the examiner improperly rejected the pending claims. Further, the examiner misapplied long-standing and binding legal precedents and principles in rejecting the claims under 35 U.S.C. § 102(b) and 35 U.S.C. § 103(a). Accordingly, the appellant respectfully requests full and favorable consideration by the board, as the appellant strongly believes that claims 1-18, 20-23, 31-35, and 40-49 are currently in condition for allowance.

A. Ground of Rejection No. 1:

The examiner rejected claims 1-3, 5-10, 13-13, 15-17, 20-23, 31-35, 40, 42, and 44-49 under 35 U.S.C. §102(b) as being unpatentable over Collins.

Legal Precedent

Anticipation under Section 102 can be found only if a single reference shows exactly what is claimed. *Titanium Metals Corp. v. Banner*, 778 F.2d 775, 227 U.S.P.Q. 773 (Fed. Cir. 1985). For a prior art reference to anticipate under Section 102, every element of the claimed invention must be identically shown in a single reference. *In re Bond*, 910 F.2d 831, 15 U.S.P.Q.2d 1566 (Fed. Cir. 1990). To maintain a proper rejection under Section 102, a single reference must teach each and every limitation of the rejected claim. *Atlas Powder v. E.I. du Pont*, 750 F.2d 1569 (Fed. Cir. 1984). The prior art reference also must show the *identical* invention "*in as complete detail as contained in the ... claim*" to support a *prima facie* case of anticipation. *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 U.S.P.Q. 2d 1913, 1920 (Fed. Cir. 1989) (emphasis added). Accordingly, the appellant need only point to a single element not found in the cited reference to demonstrate that the cited reference fails to anticipate the claimed subject matter.

Omitted Features of Independent Claim 1

Collins fails to anticipate all elements of independent claim 1. Independent claim 1 recites, *inter alia*, "a serving station coupled to a medical diagnostic imaging system for controlling the imaging system and configured to receive image data, the serving station comprising a scanner module configured to modify a scanning rate of the image data...and a plurality of network sensors in communication with the serving station." (Emphasis added.)

In the Final Office Action, the examiner suggested that Collins anticipates each of the above noted recitations present independent claim 1. *See* Final Office Action, pages 2-4. The appellant respectfully disagrees.

The present application is generally related to an imaging system 10 as part of a medical facility 12 that may include an imager 22, which allows for creation of image data indicative of regions of interest in a patient 24. *See* Application, page 5, lines 21-27. Moreover, the medical facility 12 may further include, for example, a scanner module 66 that adjusts the scanning rate of, for example, the imaging system. *See id.* at page 14, lines 16-25;

FIG. 2. Furthermore, the instant Application discusses aspects of the imaging system 10, such as scanning rate, which may be controlled based on, for example, network conditions sensed by network sensors 54 and 56. *See id.* at page 15, lines 19-26; FIG. 3. In this manner, a remote operator workstation 16 may be used to remotely configure scanning operations in conjunction with generation of image data of a patient 24. *See* Specification, page 8, lines 4-10.

This is in contrast to Collins, which appears to disclose a networked system that includes an application server that executes an application program and a subscribing client that locally displays the output of the application program. *See* Collins, paragraph 33. That is, Collins appears to teach that a client with a remote personal computer may interface with a program operating on an application server via user interaction performed on the remote personal computer. *See id.* at paragraph 35. Examples of the programs that may be operated by the application server and visually presented to a user may include Microsoft Word and/or Microsoft Excel. *See id.* at paragraph 38. Thus, it appears that Collins teaches a system that allows for a program to be accessed by a remote user and displayed on a display of the remote user in a manner similar to if the program were being executed on workstation of the user independent of the application server.

Accordingly, while Collins appears to disclose an application server that executes an application program that is locally displayed for a user, the appellant is unable to find a single disclosure in Collins of a serving station coupled to a medical diagnostic imaging system for controlling the imaging system and configured to receive image data, as recited in independent claim 1. Indeed, it appears that this recitation has been wholly ignored by the examiner, since no citation to Collins is given in the Final Office Action as disclosing the above referenced elements of independent claim 1. *See* Final Office Action, page 2. Simply put, a system that allows for presentation of Microsoft Word and/or Microsoft Excel programs on a workstation of a remote user is insufficient to anticipate a serving station coupled to a medical diagnostic imaging system for controlling the imaging system and configured to receive image data, as recited in independent claim 1.

Moreover, the appellant is unable to find any discussion in Collins relating to a scanner module configured to modify a scanning rate of the image data, as recited in independent claim 1. While the examiner apparently read (*see* Final Office Action, pages 2-3) a discussion in Collins (*see* Collins, paragraph 14) relating to the adaptation of a processing rate in response to changing conditions, nowhere in Collins is this processing rate described as analogous to a scanner module as recited in independent claim 1. Indeed, the processing rate disclosed by Collins is more aptly read to be the rate at which graphical data may be transmitted to a remote user workstation (*see* Collins, paragraph 14), and not a scanner module configured to modify a scanning rate of the image data, as recited in independent claim 1. There is simply no scanner module disclosed in Collins that is analogous to the recited scanner module of independent claim 1.

Finally, the examiner cited all of paragraph 14 of Collins as teaching a plurality of network sensors in communication with the serving station, as recited in independent claim 1. *See* Final Office Action, pages 3-4. However, the appellant reviewed this cited portion of Collins and has failed to discern any elements that may be read as a plurality of network sensors, let alone a plurality of network sensors in communication with the serving station, as recited in independent claim 1. There are simply no sensors disclosed in the cited portion of Collins.

Accordingly, for at least the reasons set forth above, Collins fails to disclose all recitations of independent claim 1 and, therefore, cannot anticipate the claim under Section 102. Accordingly, the appellant respectfully requests that the Board direct the examiner to withdraw rejection and allow independent claim 1, as well as all claims depending therefrom.

Omitted Features of Independent Claim 15

Collins fails to anticipate all elements of independent claim 15. Independent claim 15 recites, *inter alia*, "linking a serving station to a served station via a network, the serving station being coupled to a medical diagnostic imaging system for controlling the imaging

system and being configured to receive image data...measuring network performance between a serving station and a served station, wherein the serving station provides screen data derived from an imaging system to the served station, and adjusting the screen data transmitted to the served station automatically based on the measurement of the network performance, wherein adjusting the screen data comprises modifying a frame buffer scanning algorithm based on the network performance." (Emphasis added.)

As discussed above, Collins appears to disclose an application server that executes an application program that is locally displayed for a user. *See* Collins, paragraphs 33, 35, and 38. However, here again the appellant is unable to find a single disclosure in Collins of a serving station being coupled to a medical diagnostic imaging system for controlling the imaging system, as recited in independent claim 15. Again, it appears that recitations in the independent claims (here, independent claim 15), have been wholly ignored by the examiner, since the only citation by the examiner to Collins in paragraph 14 appears to be directed to a server agent for processing graphical data. *See* Final Office Action, page 7. However, this server agent disclosed in Collins appears to be a software program that, at best, interfaces with a client to support remote display of an application program. *See* Collins, paragraphs, 14 and 37. Moreover, Collins illustrates (*see* FIG. 1) that a server agent 160 is connected to network 140, and not to a medical diagnostic imaging system, as recited in independent claim 15.

Additionally, the appellant is unable to find any discussion in Collins relating to the serving station providing screen data derived from an imaging system to the served station, as recited in independent claim 15. As noted above, Collins simply does not describe an imaging system. Accordingly, it is improper for the examiner to suggest that Collins may be read as describing the serving station providing screen data derived from an imaging system to the served station, as recited in independent claim 15.

Finally, the examiner cited paragraph 14 of Collins as teaching adjusting the screen data transmitted to the served station automatically based on the measurement of the network

performance, wherein adjusting the screen data comprises modifying a frame buffer scanning algorithm based on the network performance, as recited in independent claim 15. *See* Final Office Action, page 8. The appellant reviewed this entire cited portion of Collins and has failed to find any description in Collins that may be read as modifying a frame buffer scanning algorithm based on the network performance, as recited in independent claim 15. There is simply no disclosure of modifying any scanning algorithm in the cited portion of Collins, let alone modifying a frame buffer scanning algorithm based on the network performance, as recited in independent claim 15.

Accordingly, for at least the reasons set forth above, Collins fails to disclose all recitations of independent claim 15 and, therefore, cannot anticipate the claim under Section 102. Accordingly, the appellant respectfully requests that the Board direct the examiner to withdraw rejection and allow independent claim 15, as well as all claims depending therefrom.

Omitted Features of Independent Claims 31 and 40

Collins fails to anticipate all elements of independent claims 31 and 40. Independent claim 31 recites, *inter alia*, "linking a serving station to a served station via a network, the serving station being coupled to a medical diagnostic imaging system for controlling the imaging system and being configured to receive image data." (Emphasis added.) Similarly, independent claim 40 recites, *inter alia*, "a serving station coupled to a medical diagnostic imaging system for controlling the imaging system and configured to receive image data." (Emphasis added.)

Again, similar to the argument set forth above with respect to independent claim 15, while Collins appears to disclose an application server that executes an application program that is locally displayed for a user (*see* Collins, paragraphs 33, 35, and 38), the appellant is unable to find a single disclosure in Collins of a serving station being coupled to a medical diagnostic imaging system for controlling the imaging system, as recited in independent claims 31 and 40. The only citation by the examiner to Collins with respect to this recitation

is a citation to paragraph 14 of Collins (*see* Final Office Action, pages 10 and 12-13), however, there does not appear to be any disclosure in paragraph 14 of Collins directed to a serving station linked to a medical diagnostic imaging system for controlling the imaging system, as recited in independent claims 31 and 40. Instead, this portion of Collins, as well as FIG. 3 of Collins, appears only to disclose, at best, a server agent 160 that may be connected to network 140, but not to a medical diagnostic imaging system, as recited in independent claims 31 and 40. In any event, server agent 160 appears to be wholly incapable of controlling any device, particularly a medical diagnostic imaging system. Accordingly, the appellant respectfully submits that Collins cannot be read as disclosing all elements of independent claims 31 and 40.

Therefore, for at least the reasons set forth above, Collins cannot anticipate either of independent claims 31 and 40 under Section 102. As such, the appellant respectfully requests that the Board direct the examiner to withdraw rejection and allow independent claims 31 and 40, as well as all claims depending therefrom.

Omitted Features of Independent Claim 42

Collins also fails to anticipate all elements of independent claim 42. Independent claim 42 recites, *inter alia*, "a serving station configured to receive the image data and control the imaging system, the serving station comprising a scanner module configured to modify a scanning rate of the image data, and an encoder module configured to modify an encoding format of the image data, a served station configured to receive modified image data from the serving station and to interact with the serving station via a network, and a plurality of network sensors in communication with the serving station." (Emphasis added.)

Similar to the argument set forth above with respect to independent claim 1, the appellant is unable to find any discussion in Collins relating to a serving station comprising a scanner module configured to modify a scanning rate of the image data, as recited in independent claim 42. While the examiner apparently read paragraph 14 of Collins as generally discussing a scanner module configured to modify a scanning rate of the image

data (*see* Final Office Action, page 14), the appellant cannot find a single description in the cited portion of Collins directed to a scanner module or directed to modifying a scanning rate of image data, as recited in independent claim 42. Indeed, the portion of Collins appears merely to discuss the adaptation of a processing rate in response to changing conditions. *See* Collins, paragraph 14. However, nowhere in this portion of Collins is the disclosed processing rate described as analogous to a scanner module as recited in independent claim 42. Indeed, the processing rate disclosed by Collins is more aptly read to be the rate at which graphical data may be transmitted to a remote user workstation. *See id.* However, this cannot be read as either a scanner module or as modifying a scanning rate of image data, as recited in independent claim 42.

Furthermore, the examiner cited this same paragraph 14 of Collins as also disclosing a plurality of network sensors in communication with the serving station, as recited in independent claim 42. *See* Final Office Action, page 14. However, the appellant reviewed this cited portion of Collins and has failed to discern any elements that may be read as a plurality of network sensors, let alone a plurality of network sensors in communication with the serving station, as recited in independent claim 42. There are simply no sensors disclosed in the cited portion of Collins.

Accordingly, for at least the reasons set forth above, Collins fails to disclose all recitations of independent claim 42 and, therefore, cannot anticipate the claim under Section 102. Accordingly, the appellant respectfully requests that the Board direct the examiner to withdraw rejection and allow independent claim 42, as well as all claims depending therefrom.

B. **Ground of Rejection No. 2:**

The examiner rejected claims 4, 14, and 41 under 35 U.S.C. §103(a) as being unpatentable over Collins in view of Tanenbaum.

Legal Precedent

The burden of establishing a *prima facie* case of obviousness falls on the examiner. *Ex parte Wolters and Kuypers*, 214 U.S.P.Q. 735 (B.P.A.I. 1979). To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 180 U.S.P.Q. 580 (C.C.P.A. 1974). However, it is not enough to show that all the elements exist in the prior art since a claimed invention composed of several elements is not proved obvious merely by demonstrating that each of its elements was, independently, known in the prior art. *KSR International Co. v. Teleflex Inc.*, 127 S.Ct. 1727, 1741 (2007). It is important to identify a reason that would have prompted a person of ordinary skill in the relevant field to combine the elements in the way the claimed new invention does. *Id.* Specifically, there must be some articulated reasoning with a rational underpinning to support a conclusion of obviousness; a conclusory statement will not suffice. *In re Kahn,* 441 F.3d 977, 988 (Fed. Cir. 2006). Indeed, the factual inquiry determining whether to combine references must be thorough and searching, and it must be based on *objective evidence of record. In re Lee,* 61 U.S.P.Q.2d 1430, 1436 (Fed. Cir. 2002).

Omitted Features of Independent Claim 41

Collins in view of Tanenbaum fails to teach or show all elements of independent claim 41. Independent claim 41 recites, *inter alia*, "a serving station coupled to a medical diagnostic imaging system for controlling the imaging system and configured to receive image data." (Emphasis added.)

As set forth above with respect to the arguments regarding independent claims 15, 31, and 40, while Collins appears to disclose an application server that executes an application program that is locally displayed for a user (*see* Collins, paragraphs 33, 35, and 38), the appellant is unable to find a single teaching in Collins of a serving station coupled to a medical diagnostic imaging system for controlling the imaging system, as recited in independent claim 41. The only citation by the examiner to Collins with respect to this recitation is directed to paragraph 14 of Collins (*see* Final Office Action, pages 19-20),

however, there does not appear to be any teaching in paragraph 14 of Collins that may be read as a medical diagnostic imaging system, let alone a medical diagnostic imaging system for controlling the imaging system, as recited in independent claim 41. Instead, this portion of Collins, as well as FIG. 3 of Collins, appears only to teach, at best, a server agent 160 that may be connected to network 140, but not to a medical diagnostic imaging system, as recited in independent claim 41 and 40.

Additionally, Tanenbaum fails to obviate the deficiency of Collins. Specifically, Tanenbaum appears to be directed merely to a communication means comprising a receiver for receiving display information received at a terminal from a remote terminal and a transmitter for transmitting information to the remote terminal where it is displayed. *See* Tanenbaum, Abstract. However, Tanenbaum fails to teach a medical diagnostic imaging system for controlling the imaging system, as recited in independent claim 41.

Accordingly, the appellant respectfully submits that neither Collins nor Tanenbaum, taken separately or in hypothetical combination, teach all elements of independent claim 41. Therefore, the appellant respectfully requests that the Board direct the examiner to withdraw rejection and allow independent claim 41.

Omitted Features of Claims 4 and 14

Claims 4, 14, each depend from independent claim 1. Based at least upon their respective dependency from allowable independent claim 1, as well as for the elements individually recited therein, the appellant respectfully submits that the cited art of record fails to teach each element of dependent claims 4 and 14. Accordingly, the appellant respectfully requests that the Board direct the examiner to withdraw the rejection of claims 4 and 14, and direct the examiner to allow the same.

C. **Ground of Rejection No. 3:**

The examiner rejected claims 11, 18, and 43 under 35 U.S.C. §103(a) as being unpatentable over Collins in view of Lang.

Legal Precedent

The burden of establishing a *prima facie* case of obviousness falls on the examiner. *Ex parte Wolters and Kuypers*, 214 U.S.P.Q. 735 (B.P.A.I. 1979). To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 180 U.S.P.Q. 580 (C.C.P.A. 1974). However, it is not enough to show that all the elements exist in the prior art since a claimed invention composed of several elements is not proved obvious merely by demonstrating that each of its elements was, independently, known in the prior art. *KSR International Co. v. Teleflex Inc.*, 127 S.Ct. 1727, 1741 (2007). It is important to identify a reason that would have prompted a person of ordinary skill in the relevant field to combine the elements in the way the claimed new invention does. *Id.* Specifically, there must be some articulated reasoning with a rational underpinning to support a conclusion of obviousness; a conclusory statement will not suffice. *In re Kahn,* 441 F.3d 977, 988 (Fed. Cir. 2006). Indeed, the factual inquiry determining whether to combine references must be thorough and searching, and it must be based on *objective evidence of record. In re Lee,* 61 U.S.P.Q.2d 1430, 1436 (Fed. Cir. 2002).

Omitted Features of Claims 11, 18, and 43

Claims 11, 18, and 43 each depend from independent claim 1, 15, and 42, respectively. Based at least upon their respective dependencies from allowable independent claims 1, 15, and 42, as well as for the elements individually recited therein, the appellant respectfully submits that the cited art of record fails to teach each element of dependent claims 11, 18, and 43. Accordingly, the appellant respectfully requests that the Board direct the examiner to withdraw the rejection of claims 11, 18, and 43 and direct the examiner to allow the same.

Conclusion

The appellant respectfully submits that all pending claims are in condition for allowance. However, if the examiner or board wishes to resolve any other issues by way of a telephone conference, the examiner or board is kindly invited to contact the undersigned attorney at the telephone number indicated below.

Respectfully submitted,

Date: September 27, 2010

/Matthew C. Dooley/
Matthew C. Dooley
Reg. No. 61,996
FLETCHER YODER
P.O. Box 692289
Houston, TX 77269-2289
(281) 970-4545

8. CLAIMS APPENDIX

1. A remote viewing system, comprising:

a serving station coupled to a medical diagnostic imaging system for controlling the imaging system and configured to receive image data, the serving station comprising:

a scanner module configured to modify a scanning rate of the image data; and

an encoder module configured to modify an encoding format of the image data;

a served station from which a remote operator may interact with the serving station, the served station being configured to receive modified image data from the serving station via a network; and

a plurality of network sensors in communication with the serving station and configured to provide network performance data to the serving station, wherein the serving station dynamically modifies at least one of the scanning rate and the encoding format based on the network performance data.

2. The remote viewing system of claim 1, wherein the serving station comprises a monitor for presenting image data to an operator.

3. The remote viewing system of claim 2, wherein the serving station is configured to present an indication associated with the network performance data to the operator.

4. The remote viewing system of claim 3, wherein the indication comprises a bar chart.

5. The remote viewing system of claim 3, wherein the indication comprises a network indicator that relates to the network performance data.

6. The remote viewing system of claim 1, wherein the serving station is in communication with an imaging system configured to detect a plurality of signals that are convertible into an image, the imaging system configured to produce the image data.

7. The remote viewing system of claim 1, wherein the plurality of network sensors exchange a plurality of packets to determine network congestion.

8. The remote viewing system of claim 1, wherein the plurality of network sensors exchange a plurality of packets to determine network latency.

9. The remote viewing system of claim 1, wherein the network comprises a wide area network.

10. The remote viewing system of claim 1, wherein the network comprises an Internet.

11. The remote viewing system of claim 1, wherein the serving station receives image data from a medical imaging system.

12. The remote viewing system of claim 1, wherein the serving station utilizes a remote framebuffer protocol to transmit the modified image data to the served station.

13. The remote viewing system of claim 1, wherein the served station transmits remote input data to the serving station.

14. The remote viewing system of claim 1, wherein the serving station receives local input data from a local operator via an input device that is coupled to the serving station.

15. A method for adapting screen updates based on network congestion, the method comprising:

linking a serving station to a served station via a network, the serving station being coupled to a medical diagnostic imaging system for controlling the imaging system and being configured to receive image data, the served station enabling a remote operator to interact with the serving station, the served station being configured to receive modified image data from the serving station via a network, wherein the serving station utilizes a remote framebuffer protocol to transmit the modified image data to the served station;

measuring network performance between a serving station and a served station, wherein the serving station provides screen data derived from an imaging system to the served station; and

adjusting the screen data transmitted to the served station automatically based on the measurement of the network performance, wherein adjusting the screen data comprises modifying a frame buffer scanning algorithm based on the network performance.

16. The method of claim 15, wherein measuring network performance comprises transmitting a test packet from the serving station and receiving a response packet from the served station.

17. The method of claim 15, comprising converting image data from the imaging system into screen data.

18. The method of claim 15, wherein the imaging system comprises one of a computed tomography imaging system, an magnetic resonance imaging system, a tomosynthesis system, a positron emission tomography imaging system, and a X-ray imaging system.

20. The method of claim 15, comprising transmitting the screen data to the served station from the serving station.

21. The method of claim 15, comprising encoding the screen data for transmission to the server station.

22. The method of claim 21, wherein adjusting comprises modifying a data transmission algorithm that compresses the screen data based on the network performance.

23. The method of claim 15, comprising displaying an indication of the network performance at one of the serving station and the served station based on the measurement of the network performance.

31. A method for adapting screen updates based on network performance, the method comprising:

linking a serving station to a served station via a network, the serving station being coupled to a medical diagnostic imaging system for controlling the imaging system and being configured to receive image data, the served station enabling a remote operator to interact with the serving station, the served station being configured to receive modified image data from the serving station via a network;

detecting network performance between a serving station and a served station;

comparing the network performance to a specified range; and

modifying a plurality of screen updates dynamically based upon the comparison of the network performance.

32. The method of claim 31, wherein the network performance corresponds to the latency of a network coupling the serving station and the served station.

33. The method of claim 31, wherein dynamically modifying the plurality of screen updates comprises adjusting a frame buffer scanning algorithm based on the network performance.

34. The method of claim 31, wherein dynamically modifying the plurality of screen updates comprises adjusting an encoding algorithm based on the network performance.

35. The method of claim 31, comprising encoding the plurality of screen updates for transmission to the served station.

40. A system for adapting screen updates based on network performance, the system comprising:

a serving station coupled to a medical diagnostic imaging system for controlling the imaging system and configured to receive image data;

a served station from which a remote operator may interact with the serving station, the served station being configured to receive modified image data from the serving station via a network;

means for detecting network performance between the serving station and the served station;

means for comparing the network performance to a specified range; and

means for dynamically modifying a plurality of screen updates based upon the comparison of the network performance to the specified range.

41. A system for adapting screen updates based on network congestion, the system comprising:

a serving station coupled to a medical diagnostic imaging system for controlling the imaging system and configured to receive image data, wherein the serving station receives local input data from a local operator via an input device that is coupled to the serving station;

a served station from which a remote operator may interact with the serving station, the served station being configured to receive modified image data from the serving station via a network;

means for measuring network performance between the serving station and the served station, wherein the serving station provides screen data derived from an imaging system to the served station; and

means for automatically adjusting the screen data transmitted to the served station based on the measurement of the network performance, wherein adjusting the screen data comprises modifying a frame buffer scanning algorithm based on the network performance.

42. A remote viewing system for a medical imaging system, comprising:

an imaging system configured to detect a plurality of signals that are convertible into an image, the system configured to produce image data;

a serving station configured to receive the image data and control the imaging system, the serving station comprising:

a scanner module configured to modify a scanning rate of the image data; and

an encoder module configured to modify an encoding format of the image data;

a served station configured to receive modified image data from the serving station and to interact with the serving station via a network; and

a plurality of network sensors in communication with the serving station and configured to provide network performance data to the serving station, wherein the serving station dynamically modifies at least one of the scanning rate and the encoding format based on the network performance data.

43. The remote viewing system of claim 42, wherein the imaging system comprises one of a computed tomography imaging system, an magnetic resonance imaging system, a tomosynthesis system, a positron emission tomography imaging system, and a X-ray imaging system.

44. The remote viewing system of claim 42, wherein the serving station is configured to present an indication associated with the network performance data to an operator.

45. The remote viewing system of claim 42, wherein the plurality of network sensors exchange a plurality of packets to determine network performance.

46. The remote viewing system of claim 42, wherein the network comprises a wide area network.

47. The remote viewing system of claim 42, wherein the plurality of network sensors exchange a plurality of packets to determine network latency.

48. The remote viewing system of claim 42, wherein the serving station utilizes a remote framebuffer protocol to transmit the modified image data in the served station.

49. The remote viewing system of claim 42, wherein the served station transmits remote input data to the serving station.

9. EVIDENCE APPENDIX

None.

10. **RELATED PROCEEDINGS APPENDIX**

None.